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SILICON THIN FILM (54) FORMATION OF POLYCRYSTALLINE

(57) Abstract:

a small absolute value of threshold characterized by a small OFF current, temperature, performing a heat an amorphous state at a specified reacting gas, performing deposition in by using disilane or trisilane as a voltage and a large operating current, MOS type field-effect transistor manufacture a polycrystalline Si PURPOSE: To make it possible to

treatment and polycrystallization.

a reacting gas, and deposition is or less by using disilane or trisilane as deposition temperature, and a performed at a temperature of 550°C CONSTITUTION: Decomposition is shape. Thereafter, an SiO2 film 14 is type Si substrate 11 by an LPCVD deposited on an SiO2 film 12 on a Pexample, an amorphous Si film 13 is polycrystalline state is obtained. For Heat treatment is performed at a performed under an amorphous state. concentration impurity regions for a by heat treatment. BF2 ions are gas, and a gate electrode 15 is deposited by using SiH4 as a reacting performed at 900°C, and a gate oxide deposited. Heat treatment is C. The film is patterned in an island reacting gas at a temperature of 520° method by using Si2H6 gas as a temperature higher than the source, a drain and a gate are formed implanted, and P-type high implanted in the polycrystalline Si formed. Then, an SiO2 film is formed 13. A polycrystalline Si film is film is obtained. Then, P ions are

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